

WHAT IS CLAIMED IS:

1. Human aggrecanase present in other than its natural environment.
2. The aggrecanase according to Claim 1, wherein said aggrecanase has an amino acid  
5 sequence substantially identical to the sequence of SEQ ID NO:01.
3. A fragment of the aggrecanase according to Claim 1.
4. A nucleic acid present in other than its natural environment, wherein said nucleic acid has  
10 a nucleotide sequence encoding aggrecanase.
5. A nucleic acid according to Claim 4, wherein said nucleic acid has a nucleic acid sequence  
that is substantially identical to the nucleotide sequence of SEQ ID NO:02.
- 15 6. A fragment of the nucleic acid according to Claim 4.
7. An isolated nucleic acid or mimetic thereof that hybridizes under stringent conditions to  
the nucleic acid according to Claim 4 or its complementary sequence.
- 20 8. An expression cassette comprising a transcriptional initiation region functional in an  
expression host, a nucleic acid having a nucleotide sequence found in the nucleic acid according  
to Claim 4 under the transcriptional regulation of said transcriptional initiation region, and a  
transcriptional termination region functional in said expression host.
- 25 9. A cell comprising an expression cassette according to Claim 8 as part of an  
extrachromosomal element or integrated into the genome of a host cell as a result of introduction  
of said expression cassette into said host cell.
10. The cellular progeny of the host cell according to Claim 9.

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11. A method of producing aggrecanase, said method comprising:  
growing a cell according to Claim 9, whereby said aggrecanase is expressed; and  
isolating said aggrecanase substantially free of other proteins.
- 5 12. A monoclonal antibody binding specifically to aggrecanase.
13. The antibody according to Claim 12, wherein said antibody inhibits aggrecanase activity.
14. The monoclonal antibody according to Claim 13, wherein said antibody is selected from  
10 the group consisting of a human antibody or a humanized antibody.
15. A method for modulating aggrecanase in a host, said method comprising:  
administering an effective amount of an aggrecanase modulatory agent to said host.
- 15 16. The method according to Claim 15, wherein said modulatory agent is a small molecule.
17. The method according to Claim 15, wherein said modulatory agent is an antibody.
18. The method according to Claim 15, wherein said modulatory agent is a nucleic acid.
- 20 19. A method of screening to identify aggrecanase modulatory agents, said method  
comprising:  
contacting aggrecanase with an aggrecanase substrate in the presence of an potential  
modulatory agent; and  
25 determining the effect of said modulatory agent on the activity of said aggrecanase.
20. The method according to Claim 19, wherein said aggrecanase substrate comprises a glu-  
ala bond.

21. The method according to claim 20, wherein said aggrecanase substrate is aggrecan or a fragment thereof.

22. A method of treating a host suffering from a disease condition associated with aggrecanase activity, said method comprising:  
5 administering to said host an aggrecanase modulatory agent.

23. The method according to Claim 22, wherein said aggrecanase modulatory agent is an aggrecanase antagonist.

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24. The method according to Claim 23, wherein said disease condition is characterized by the presence of aggrecan cleavage products.

25. A non-human transgenic animal model capable of expressing aggrecanase.